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Mr. Robert J. Jambois District Attorney 912-56th Street Molinaro Building Kenosha, Wisconsin 53140

Department of Pathology Forensic Toxicology Laboratory

March 11, 2002

Re: Julie Jensen-Death Investigation

Dear Mr. Jambois:

I have reviewed the materials that you sent on this case including: various police and physician reports, toxicology testing, computer print outs and the autopsy report.

The circumstances as I understand them are summarized as follows. A Ms. Jensen was having marital problems and afraid for her life. She had gone to the police on several occasions expressing this concern. She believed her husband was going to kill her and explain it as suicide. Ms. Jensen also expressed this to neighbors.

Ms. Jensen died on December 3, 1998 and was autopsied the next day. The autopsy demonstrated 660 mL of dark green liquid with few food particles in her stomach. The food fragments appeared to be potato and pepper.

No ethylene glycol (anti-freeze) was found in Ms. Jensen's house, not even in the sink traps.

Effects resulting from ethylene glycol intoxication start with alcohol like effects. Inebriation, slurred speech, ataxia and somnolence are frequent early symptoms of ethylene glycol intoxication. The symptoms are classified into three phases:

- 1- This starts between 30 minutes and 12 hours post ingestion. The person appears drunk, but without a smell of alcohol. Nausea, vomiting and even bloody vomiting may occur.
- 2- This phase begins 12 to 14 hours post ingestion. Tachycardia, hypotension, pulmonary edema and congestive heart failure result

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from the ethylene glycol. Most deaths occur during this phase. Oxalate crystals may be present during phase 2.

3- Phase 3 develops 24 to 72 hours post ingestion with symptoms of acute tubular necrosis and renal failure.

Ethylene glycol is a sweet tasting, odorless liquid that may have a color added by the manufacturer. The minimum oral dose to produce a fatality is considered to be 100 mL.

When ethylene glycol enters the human body it initially behaves like alcohol. The products of metabolism become more and more toxic with each step. Those that survive the seizures and acidosis develop crystals in their tissues. The crystals are products of metabolism produced by oxalic acid. Other toxic acids are also generated during metabolism contributing to the acidosis.

Opinions:

Ethylene glycol was the cause of death in Ms. Jensen. The pathology shows crystals in the kidneys and the toxicology demonstrates ethylene glycol. This compound was identified in the blood and large amounts were found in the stomach contents. There is no other reasonable explanation for Ms. Jensen's death.

Ms. Jensen did not die from a single administration of ethylene glycol. The concentration in her blood was low, but there were crystals in her tissue. These crystals demonstrate that she survived the initial phase(s) of ethylene glycol poisoning. The stomach, having a large concentration of ethylene glycol demonstrates an acute ingestion, at or near the time of death. The crystals in tissues define the first dose(s) at more than 12 hours earlier and the stomach concentration defines the final dose at her death. The autopsy/testing shows that there were at least 2 doses of ethylene glycol and this is further supported by her history.

The report of Ms. Jensen acting intoxicated on December 1st is consistent with ethylene glycol. This would be a phase 1 from ethylene glycol intoxication. Paroxetine (Paxil) does not produce an inebriated condition, which was alleged by Mr. Jensen when he went to Dr. Bormann for additional sleep medications.

Ms. Jensen's history of "feeling ill" the day before her death, December 2nd, is consistent with phase 1 to phase 2 of ethylene glycol poisoning. She reported feeling weak and dizzy, which are consistent with ethylene glycol intoxication. It was also reported that she wasn't eating but rather drinking a lot of water/fluids. Mr. Jensen reported that she had vomited from the bedroom to the bathroom

late in the evening of December 2^{nd} . This vomiting would be consistent with an additional administration of ethylene glycol.

On the morning of her death she would have been suffering from the acidosis and the tissue damage from the crystals. Ms. Jensen was reported to be in a very poor condition at this time, unable to get up, congested and weak. All of these symptoms are consistent with ethylene glycol poisoning. It is not reasonable that Ms. Jensen could have gotten out of bed at this time because of the ethylene glycol poisoning.

The final administration of ethylene glycol didn't have time for absorption before her death. It is not reasonable that Ms. Jensen could have consumed any ethylene glycol in her condition (by herself) and then cleans up (hides) the source of the ethylene glycol afterwards. Her death was very close to the last administration of ethylene glycol.

This appears to be a homicide for the following reasons:

1- The ethylene glycol was not present in the house.

2- Her stomach contained significant amounts of ethylene glycol, showing her death occurred at or near the time of administration.

3- Ms. Jensen would have been too weak to drink the volume of ethylene glycol found in her stomach at autopsy, without help.

4- Ms. Jensen would have been too weak to hide the ethylene glycol after her final dose.

5- Multiple doses were administered. A minimum of two doses was administered.

6- Her reports to the police regarding the fear for her life from her husband.

7- Her letter 10 days before her death.

This is a case of ethylene glycol poisoning with a fatal result. The chemical was administered at least 2 times prior to her death, which is inconsistent with a suicide.

Should you have any further questions please contact me.

Christopher Løng, Ph.D., DABFT